

# इंटरनेट

# मानक

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IS 7511-9 (1992): Dimensions For Neck Finishes - Part 9  
28mm roll on finishes for pressurized liquids [CHD 10:  
Glassware]



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*Indian Standard*

**DIMENSIONS FOR NECK FINISHES**

**PART 9 28 mm FINISHES FOR PRESSURISED LIQUIDS**

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**BUREAU OF INDIAN STANDARDS**

**MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG**

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## FOREWORD

This Indian Standard ( Part 9 ) was adopted by the Bureau of the Indian Standards, after the draft finalized by the Glassware Sectional Committee had been approved by the Chemical Division Council.

A variety of glass finishes are now being produced by the glass containers industry. Most of these finishes are being used by packers who have facilities for high speed filling and capping operations. Consequently, it has become necessary to standardize upon the dimensions of different types of glass finishes.

This Indian Standard IS 7511 first issued in 1974 was revised thoroughly in 1986 into the following 8 parts :

- Part 1 Shallow continuous thread finish ( R3 );
- Part 2 Shallow continuous deep thread finish for deep screw caps ( R3/D );
- Part 3 Roll-on threads non-pilferproof ( RONPP );
- Part 4 Roll-on threads pilferproof ( RONPP );
- Part 5 Vial goldie seal glass finishes;
- Part 6 Dual neck finish;
- Part 7 Crown finish; and
- Part 8 Vacuum lug finish.

A need has arisen to lay down the dimensions for 28 mm Roll-on pilferproof ( RSPP ) and non-pilferproof ( RNSP ) glass container neck finishes. These finishes are for sealing with overall PVC plastisol lined top cum side sealing type 28 mm RSPP or RSNP closures and are intended for packing pressurised or hot filled liquids. These finishes are meant for single trip bottles ranging from 200 ml to 1 000 ml nominal capacities. Hence this part was printed.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values ( revised )'. The number of significant place retained in the rounded off value should be the same as that of the specified value in this standard.

# Indian Standard

## DIMENSIONS FOR NECK FINISHES

### PART 9 28 mm FINISHES FOR PRESSURISED LIQUIDS

#### 1 SCOPE

This standard (Part 9) prescribes the dimensions of 28 mm Roll-on pilferproof (RSPP) and Non-pilferproof (RSNP) glass container neck finishes. These finishes are for sealing with overall PVC plastisol lined top cum side sealing type, 28 mm RSPP or RSNP closures and are intended for packing pressurised or hot filled liquids. Both the finishes are essentially meant for single trip bottles ranging from 200 ml to 1 litre nominal capacities.

#### 2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

| IS No.                                              | Title                                                                       |
|-----------------------------------------------------|-----------------------------------------------------------------------------|
| 1382 : 1981                                         | Glossary of terms relating to glass and glassware ( <i>first revision</i> ) |
| 6654 : 1982                                         | Glossary of terms relating to glass containers ( <i>first revision</i> )    |
| 7511 (Part 1) : 1986 (R3) ( <i>first revision</i> ) | Shallow continuous thread finish                                            |

#### 3 DIMENSIONS AND TOLERANCES

**3.1** Roll seal pilferproof (RSPP) glass neck finish shall have sealing surface, thread and neck profiles and dimensions as detailed in Fig. 1 and also comply with the additional requirements detailed in Fig. 1.

**3.2** The roll seal non-pilferproof (RSNP) glass neck finish shall have sealing surface, thread and neck profiles and dimensions as detailed in Fig. 2 and also comply with the additional requirements detailed in Fig. 2.

**3.3** The neck finish for pre-threaded plastic caps shall be as given in Fig. 3.

#### 4 CHECKING AND INSPECTION

**4.1** All the essential dimensions of the neck finish may be checked with the appropriate gauges detailed in Fig. 1 of IS 7511 (Part 1) : 1986. The profiles may also be checked on a profile projector by shadowgraph.

##### NOTES (Fig. 1)

1. Satisfactory threading requires a minimum of 1-1/4 turn of full thread width and depth.
2.  $\tan \beta = \text{Pitch}/\pi/2$  ( 'T' Nominal + 'E' Nominal )  
where  $\beta$  = the Helix angle or angle of fixture to the cutter (Cutter dia : 12.5).
3. The finish is to be of side seam and seamless top construction and is not to be fire polished.

4. The finish is designed for a pressure holding, top cum side seal closure and this it to be smooth and free from defects such as crizzles, split, checks, overpress, underpress, press ups that will contribute to loss of carbonation and/or high removal torque.
5. The pilferproof band (ledge) area is to be as smooth as possible. Rough glass in this area can cause high removal torque.
6. The maximum out-of-parallel of the top of the finish with the bottom of the bottle (bend or slant neck) not to exceed 0.2 mm.
7. The off-set or vertical mis-match not to exceed 0.1 mm.
8. The horizontal mis-match between the top sealing surface (seamless) mould and the finish body mould shall not exceed 0.25 mm maximum.
9. The parting line between the top sealing surface mould and the finish body mould is not to be less than 1.02 mm from the top sealing surface of the finish.
10. 'N' diameter to be maintained to a minimum distance of 16 mm from lower end of the pilfer proof band (ledge).

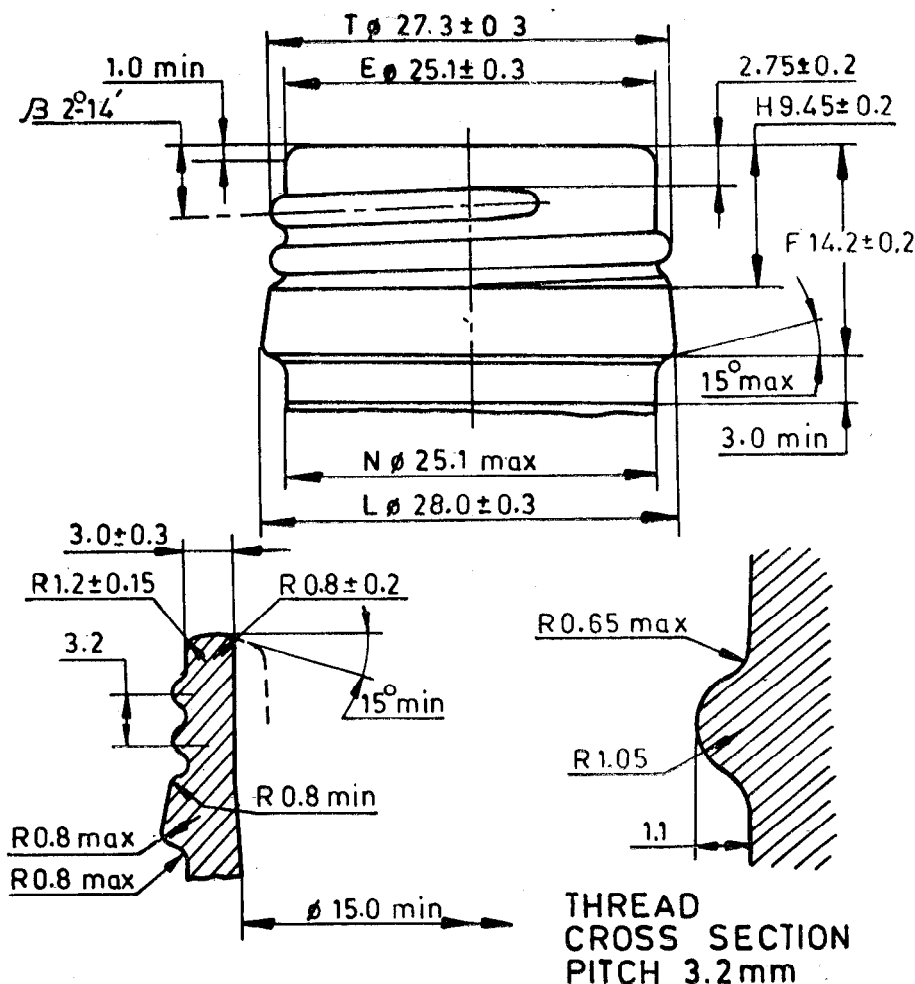
##### NOTES (Fig. 2)

1. Satisfactory threading requires a minimum of 1-1/4 turn of full thread width and depth.
2.  $\tan \beta = \text{Pitch}/\pi/2$  ( 'T' Nominal + 'E' Nominal )  
where  $\beta$  = the Helix angle or angle of fixture to the cutter (cutter diameter : 12.5).
3. The finish is to be of side seam and seamless top construction and is not to be fire polished.
4. The finish is designed for a pressure holding, top cum side seal closure and this is to be smooth and free from defects such as crizzles, split, checks, overpress, underpress, press ups that will contribute to loss of carbonation and/or high removal torque.
5. The maximum out of parallel of the top of the finish with the bottom of the bottle (bent or slant neck) not to exceed 0.2 mm.
6. The off-set or vertical mis-match not to exceed 0.1 mm.
7. The horizontal mis-match between the top sealing surface (seamless) mould and the finish body mould shall not exceed 0.25 mm maximum.
8. The parting line between the top sealing surface mould and the finish body mould is not be less than 1.02 mm from the top sealing surface of the finish.

##### NOTES (Fig. 3)

1. This is a top and side seal finish. Sealing surface is marked with a heavy line and should be smooth and free of any defects that will contribute to a loss of pressure or interfere with rotation of closure. Any undermatch should not be greater than 0.25 on the diameter with no overmatch allowed. The parting line must not be less than 0.79 from top of finish. The surface dimension 'F' may have a 0° to 2° downward and outward taper.
2. 'H' dimension represents distance from top of sealing surface down to horizontal line tangent to the bottom swing of the 0.79 maximum radius and is required for mould makers guidance.

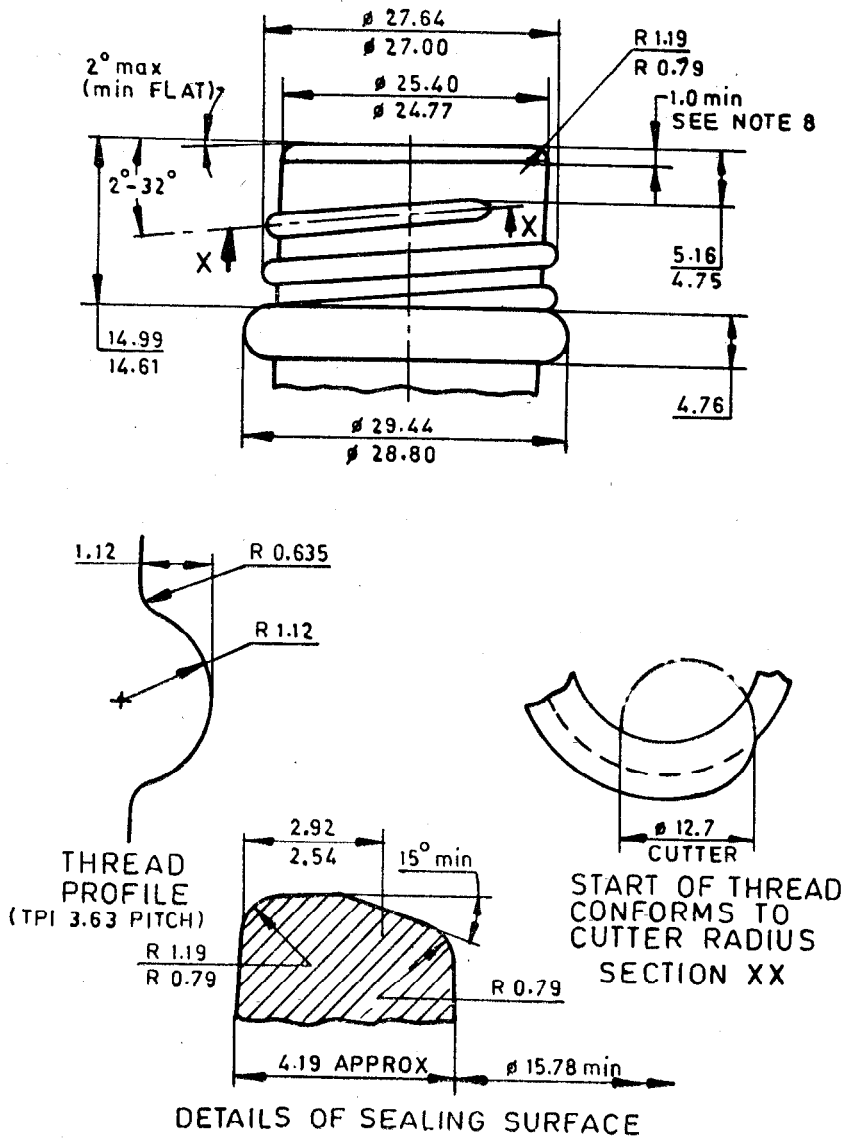
3. a) Proper closure application requires a minimum of 390° of full width and depth of thread except where depressed at mould seams. Beyond this, thread is to run into bead.
  - b) Wall of 'E' diameter beyond minimum full turn of thread should be increased gradually to full 'T' diameter in 90° turn.
4. Requirements for good cap application and removal:
- a) 0.508 maximum out of parallel sealing surface with bottom of the bottle. This is for cocked necks and slanted finishes.
  - b) 2.39 maximum out-of-perpendicular with base of bottle.
  - c) Depressed thread at mould seam not to exceed 0.20 on diameter.
  - d) Offset-type thread is provided to minimize interferences on closure removal.
  - e) The minimum tolerance of the thread 'T' diameter do not apply to the depressed or offset area.
  - f) Vertical mismatch of thread not be exceed 0.10 at mould seam.
  - g) A 1.17 minimum thread projection shall be maintained over full length of thread, excluding random depressions subject to normal manufacturing variations. Degree of rolled thread in closure application determines actual seal security and bottlers use of a tester for proper application is recommended to inspect for total package integrity.
5. Certain capping machine equipment requires guide bell clearance as shown.
  6. The glass diameter immediately below and above the neck-ring guide-ring parting line must fall within the 'F' specification. 'F' specification should not be gauged at a point 0.04 down from top of finish.
  7. a) Minimum 'I' dimension is for filling tube clearance and extends through entire length to the finish and the bottle neck.  
b) For added durability of returnable bottles, a minimum 'W' of 3.175 may be desirable.  
c) The inner lip contour indicated by dash line is subject to normal manufacturing variations.
  8.  $\tan \beta = \text{Pitch} / \pi / 2$  ('T' (Nominal + 'E' Nominal))  
where  $\beta$  = The Helix angle.
  9. Proper application and function of closure require that variation in the 'E' diameter should follow those of 'T' subject to normal manufacturing conditions, including the thread profile illustrated.



All dimensions in millimetres.

FIG. 1 DIMENSIONS AND PROFILE OF 28 mm PILFERPROOF GLASS NECK FINISH FOR PRESSURISED BEVERAGES

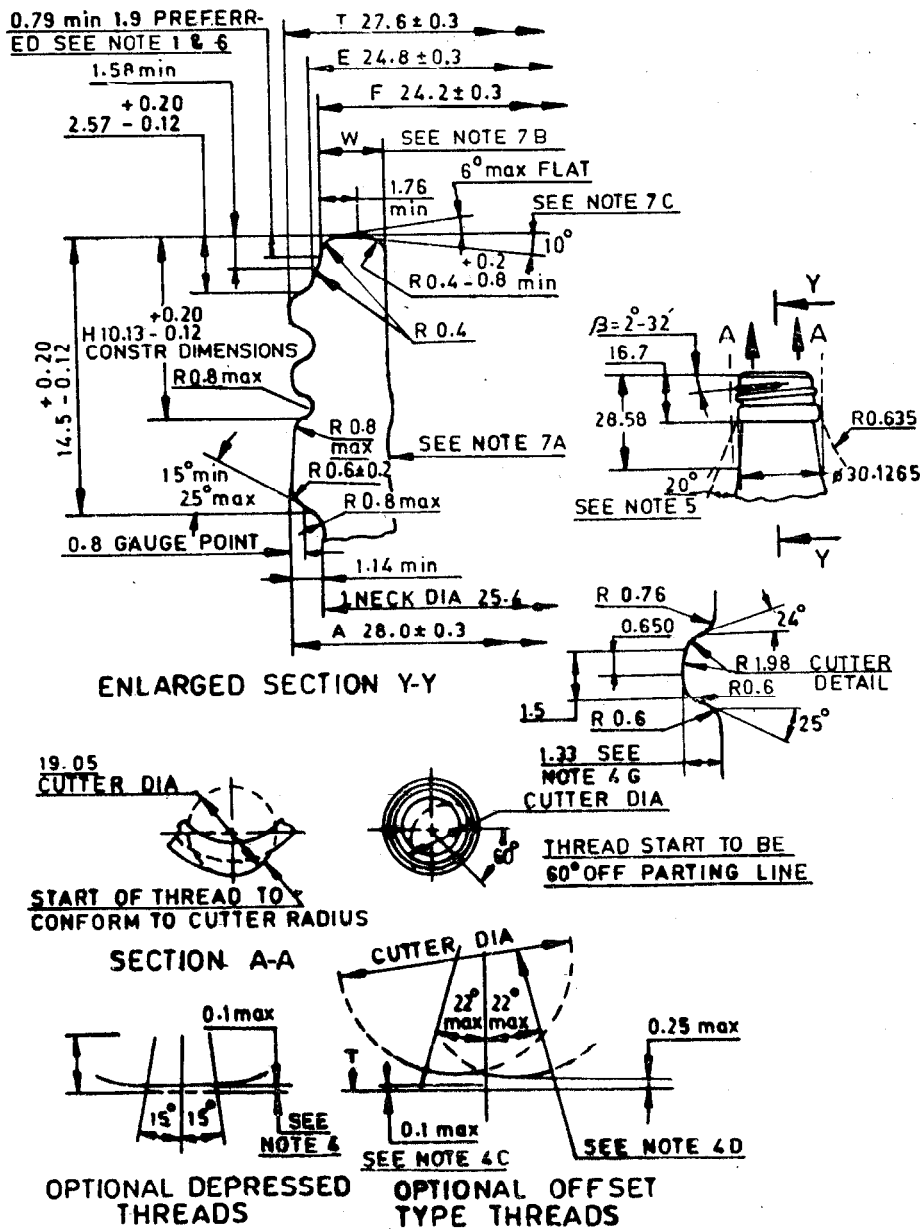
( See Notes 1 to 8 for Additional Requirements )



All dimensions in millimetres.

FIG. 2 DIMENSIONS AND PROFILE OF 28 mm NON-PILFERPROOF GLASS NECK FINISH FOR PRESSURISED BEVERAGES

( See Notes 1 to 8 for additional requirements )



All dimensions in millimetres.

FIG. 3 NECK THREAD FINISH FOR GLASS BOTTLES FOR PRE-THREADED PLASTIC CAP

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